

Mr. Smith's area lies for some twenty-five miles along the coastal side of the east-west Santa Ynez Mountains, extending from ocean to crest in an altitudinal range of nearly 4000 feet within a distance of three to six miles. The vegetation consists predominantly of chaparral, with woodland or woodland-grassland in the canyons and on the upper part of the coastal plain. In addition, there are such special habitats as sandy beaches, salt marshes, vernal pools, cliffs, and deposits of diatomaceous earth. There is a high content of introduced species in the herbaceous vegetation at the lower altitudes.

From these diverse environments there has been painstakingly assembled an imposing list of 1018 species (plus 148 varieties and forms), comprising 626 indigenous species and 392 introduced; 173 cultivated escapes are additionally noted. Each inclusion is supported by a cited collection or occasionally by a reference to literature. Most of the collections are the author's and are deposited in the Herbarium of the Santa Barbara Botanic Garden.

The best-represented families appear to be Compositae (148 taxa), Gramineae (102), Leguminosae (67), Cruciferae (40), and Scrophulariaceae (38). Among the largest genera are *Bromus*, *Lotus*, *Lupinus*, *Trifolium*, *Solanum*, *Atriplex*, *Juncus*, *Carex*, and *Gnaphalium*; in several instances introduced species contribute significantly to the number of species. The conspicuous woody vegetation is represented by rather few genera and species; only two gymnosperms, *Pinus Coulteri* and *Pseudotsuga macrocarpa*, are listed.

From the artistic line-drawing of *Platanus* foliage and fruit on the paper cover, through the handsome full-page photographs of characteristic habitats to the useful gazetteer and the index, this little volume is attractive and thoroughly admirable. Its author is to be congratulated on his meticulously thorough study, and the Santa Barbara Botanic Garden for recognizing the merits of his work and presenting it in such a handsome guise. LINCOLN CONSTANCE, Department of Botany, University of California, Berkeley.

Native Orchids of North America. By DONOVAN STEWART CORRELL. xvi + 400 pages, 146 + 4 plates. 1950. Waltham, Massachusetts: Chronica Botanica Co.; San Francisco: J. W. Stacey, Inc. \$7.50.

Orchids have always had a fascination for scientist and layman alike. The amazing complexity of the flower forms tests the skill of the most competent taxonomist, and their weird beauty and difficulty of cultivation attract and challenge the grower.

In this country orchid cultivation has confined itself, with a few notable exceptions, to the exotic forms. Indeed, many orchid growers are unaware of the native species. This is

unfortunate and difficult to understand, for our native Cypripediums (notably *C. acaule* and *C. montanum*) are very nearly the most lovely of their group, far surpassing their tropical relatives in delicacy of texture and coloration, and our native Habenarias, Calopogons, and Spiranthes compare favorably with their exotic relations.

Fifty years ago our native orchids received more attention than they now do, and the orchid flora of the northeast was then well known. In 1924 Professor Oakes Ames wrote a little book for the American Orchid Society that was a compendium of our knowledge of orchids in the United States at that time. Unfortunately this has long been out of print and difficult to obtain. Meanwhile the studies of many workers have increased our knowledge tremendously.

We welcome, therefore, the recent appearance of "Native Orchids of North America" by D. S. Correll. Long connected with the Ames Orchid Herbarium at Harvard University, Dr. Correll has observed and collected orchids throughout the United States and is well equipped to prepare a monograph of the native orchids. In addition, he has been fortunate in having the collaboration of E. T. Wherry of the University of Pennsylvania and J. V. Watkins of the University of Florida, who have contributed cultural notes for the various species. The book is essentially a monograph: synonymy is given for each entity considered, and every species and many varieties are fully illustrated from the pens of Mrs. Oakes Ames and Mr. Gordon W. Dillon. Finally, a glossary of technical terms and a full bibliography are appended.

The author has the happy facility of making even a technical description readable, and scattered here and there are delightful paragraphs which carry one far afield for the moment, to the wooded slopes of the Canadian Rockies or the grassy swamps of Florida. G. P. DEWOLF, JR., Department of Botany, Tulane University, New Orleans, La.

Vegetation of the Sonoran Desert. By FOREST SHREVE. Carnegie Institution of Washington Publication no. 591. Volume 1, xii + 192 pp., 27 maps, 37 plates. 1951. Washington, D.C. (\$3.25 (paper); \$3.75 (cloth)).

In outlining his plan for study of the vegetation of the arid regions of North America, Dr. Shreve said, "It is only through a study of the plant communities and the dominant perennials in relation to the conditions of climate and soil that the processes can be evaluated which have given the plant life of an area its distinctive character." The present work is the culmination of these studies in the Sonoran Desert, a region of biological unity comprising southwestern Arizona, extreme southeastern California, and the major portion of Baja California and Sonora, Mexico. For the most part, this area lies